

Mr. Stephen E. Petty, P.E., C.I.H., C.S.P.
President

Company

EES Group, Inc.
(d/b/a - Engineering & Expert Services, Inc.)
1701 E. Atlantic Blvd., Suite 5
Pompano Beach, FL 33060

Education

B.S., Chemical Engineering, University of Washington
M.S., Chemical Engineering, University of Washington
M.B.A., University of Dayton

Experience

General

Mr. Petty is President of EES Group, Inc. (Engineering & Expert Services, Inc.). He started EES Group, Inc. in 1996, ultimately having offices in Ohio (Columbus and Cleveland) and in Florida (Pompano Beach). In 2015, he sold the Ohio portion of EES Group, Inc. while retaining Florida operations. Prior to starting EES Group, Inc. in 1996, Mr. Petty was the Manager of Residential and Commercial Technology at Columbia Energy and a Senior Research Engineer at Battelle. He has 37 years of forensic engineering, environmental health and safety, and energy experience. Since 2002, he has completed or supervised over 7,000 engineering forensic and health and safety projects for nearly 100 clients. This culminated in the writing of a Forensic Engineering textbook targeted at assessing claims for the insurance industry (*Forensic Engineering: Damage Assessments for Residential and Commercial Structures*, January 3, 2013, CRC Press publication; 2nd Edition to issue in 2022).

Mr. Petty's health and safety experience has focused on projects for the legal community (expert witness), the insurance industry, institutions, and the private sector. His expertise covers the area of Professional Engineering (PE's in six states), Industrial Hygiene (registered Certified Industrial Hygienist - CIH) and safety (registered Certified Safety Professional - CSP). As a CIH, he investigates the causes/solutions of an individual's sickness, impaired health, and discomfort at work and in the home. As a CSP, he investigates situations primarily arising out of possible Occupational Safety and Health Administration (OSHA) violations associated with workplace injuries. In other cases, this extends to customers injured at facilities where they are working or shopping. Finally, he is a certified Asbestos Evaluation Specialist in Ohio.

Mr. Petty has been involved in ~400 expert witness cases to date, with a primary focus on exposure to organic chemicals, inorganic chemicals, pesticides, PFOA, PFAS, mold, bacteria (*Legionella*), heat and bio-toxins; OSHA workplace compliance (chemical exposures, amputations, and slips, trips and falls, and building envelope systems). He has also supported/testified on building envelope, water cause and origin, structural, and roof damage claims. His company assembled a nine-member team of experts that

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won the expert witness contract for the Ohio School Facilities Commission (OSFC) from 2004-2008.

Mr. Petty has extensive expertise on heating, ventilation and air conditioning (HVAC) systems and holds nine (9) U.S. patents primarily related to HVAC systems.

His safety and environmental experience also includes completion of many complex projects in Risk Assessment (BUSTR, EPA and VAP), Industrial Hygiene, Process Safety Management (PSM), Risk Management Plans (Health and Safety Audits), Environmental Assessments (EA) and Environmental Impact Statements (EIS), and air and water permits (PTI, PTO, NPDES, etc.) for numerous clients across the United States.

Finally, he has served in a leadership role in technology evaluations, business plans, and product development activities for dozens of products and ventures. He has been the invited dinner/lunch speaker to ASHRAE/AIHA and legal association functions.

Health and Safety Experience

- Mr. Petty has been utilized as an expert witness in ~400 cases primarily related to human exposure(s) and safety (OSHA). In the exposure area, he has worked/testified on cases of exposure to acid gases, benzene, isocyanates, formaldehyde, gasoline, paint products, other organic chemicals, PFOA/PFAS silica, pesticides, Legionella and other bacteria and molds. In the safety area, he has worked/testified in worker exposure to chemicals, falls, and amputation cases and the standard of care required to protect workers and customers. He is recognized for his ability to reduce complex sets of information regarding exposure and compliance with regulatory standards into simple but accurate reports and presentations. Areas of practice include:
 - Occupational Safety and Health Administration Regulations:
 - OSHA Health and Safety Regulations for Workers 29 CFR 1910 General Industry and 29 CFR 1926 Construction Industry
 - OSHA Process Safety Management of Highly Hazardous Chemicals - 29 CFR 1910.119
 - Personal Protective Equipment - PPE - 29 CFR 1910.132
 - Respiratory Protection Standard - 29 CFR 1910.134 and preceding/current ANSI Z88 Standards.
 - 29 CFR 1910.1000 - OSHA PEL and Controls Standard
 - 29 CFR 1910.1028 - Benzene Standard
 - Hazard Communication Standard - HAZCOM - 29 CFR 1910.1200 and preceding/current ANSI Z129.1 (Precautionary Labeling), ANSI Z400.1 (MSDS Preparation) and LAPI Industry Standards (7 Editions from 1945 forward).
 - Mine Safety Health Administration (MSHA) EH&S Regulations - 30 CFR Parts 1 to 199

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- United State Environmental Protection Agency - USEPA - 40 CFR (Including pesticides, hazardous wastes, permitting, remediation, and Process Safety Management).
- DOT Transportation Regulations and Spill Response - Hazardous Waste Operations and Emergency Response (HAZWOPER) - 46 CFR.

Mr. Petty is also trained in Hazardous Waste Operations and Emergency Response (HAZWOPER) (40-hr.) and has served as a trainer for the 40-hr. course.

- Mr. Petty is a recognized expert in Risk Assessment (RA) having been one of 14 to take the first Risk Assessment courses offered by the Ohio State University & University of Cincinnati Schools of Public Health in 1997. In addition to having completed a dozen risk assessments, he was selected by the State of Ohio Bureau of Storage Tank Regulators (BUSTR) to help write their 1999 UST RA regulations. He was selected to train BUSTR staff RA (5-week course) and to help write the on-line RA webpage, proof the equations, and to help with the on-line help handbook.
- He has completed dozens of indoor air sampling projects for residential, commercial, and industrial clients. Clients include Grange Insurance Company, Northwest Local School District, Children's Hospital, Berger Hospital, Citgo, Salem University, and Nestle.
- He has completed dozens of mold field evaluation projects. In this area, he attended a one-week ACGIH mold course in late 2002. He also received his residential mold inspector credentials from the IESO in 2003.
- Examples of specific projects completed are:
 - Conducted worker illness IAQ program where Iraqi documents were being scanned. Sampled for anthrax, bio-toxins, mold, bacteria, VOCs, CO and CO₂, temperature and humidity to help determine cause of worker complaints.
 - Sampled surface and materials for anthrax and bio-toxins at two commercial facilities.
 - Selected and completed analysis to determine cause of illness to players in their locker room at Nationwide Arena for the Columbus Blue Jackets professional hockey team.
 - Served as an expert to the OSFC on building HVAC and human comfort issues in school buildings.
 - Developed implementation templates for several Process Safety Management (PSM) and Risk Management Program (RMP) clients (e.g. Nestle facilities).
 - Prepared public meeting presentation materials for AEP RMPs at their Conesville and Tanners Creek power plants. Focus was to match public legal requirements with needs of the client, and development and presentation of worst case and alternative case release scenarios under Part 68 of 40 CFR.

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- Completed PSM programs for two Southwest Research Institute (SwRI) facilities and two Nestle facilities. Focus was on completing process hazards analyses (PrHAs) and on setting up ongoing PSM programs. For Nestle, set up file-based system, wrote plans for all 14 major elements, and provided detailed checklists and guidance on sections such as training, mechanical integrity, etc.
 - Completed multiple ventilation projects for American Electric Power Plant facilities to determine best locations (performance vs. cost) for hazardous gas monitors in power plants and whether or not ductwork was contaminated with mold.
 - Completed series of EH&S projects for Dublin schools (e.g. air quality audits and noise analyses). Completed air clearance testing and reporting and held public meetings for the vandalism clean-up efforts of Grizzell Middle School.
 - Conducted industrial hygiene audits and testing for numerous public and private clients. Focused on HVAC systems, sampling (CO, CO₂, relative humidity, molds, dust, bacteria, formaldehyde, VOCs, and isocyanates) and remediation/abatement.
 - Completed Failure Modes & Effects Analyses (FMEA) for DOD BZ Nerve Agent Plant design. Plant was later built, operated, and decommissioned in Pine Bluff, AR without incident.
- Developed IAQ solutions based on ASHRAE Standards and new technologies (e.g. desiccants).
 - Developed and taught OSHA HAZWOPPER courses (40-hr, 24-hr and 8-hr).
 - Voting member ASHRAE TC 8.3; corresponding member ASHRAE TC 3.5 (Desiccants).
 - Adjunct Professor at Franklin University. Instructor of Environmental and Earth Sciences courses.

Engineering Experience

- President and Owner of EES Group, Inc. (EES) since 1996. Developed EES into one of the leading forensic companies in the state of Florida and Ohio.
- Author of *Forensic Engineering: Damage Assessments for Residential and Commercial Structures*, January 3, 2013, a CRC Press publication (2nd Edition to issue in early 2022). The book provides guidance on engineering claims assessments for the insurance industry.
- Developed forensics libraries and technical bulletins on how to assess insurance claims and fraud associated with claims. Lead author of refereed journal article reviewing hail damage from ~750 individual assessments.
- Completed or supervised over 7,000 forensics inspection projects for ~100 insurance companies and other private sector clients since 2002. Projects were associated with structural failures in residential and commercial buildings,

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structural damage and failures caused by vehicles striking buildings, water causation and origin analysis, causes of plumbing failures, HVAC failures and damage, roof system failures and structural damage, mold cause, origin and removal, lead cause and removal, hail damage, and lightning claims. Also completed or supervised over 200 insurance appraisals (negotiated settlements) for the industry. Was selected and completed role as an umpire for a 36-building one million dollar hail claim dispute. Testified in trial on roofing claim disputes. Specifically requested for difficult projects and for projects in the state of Texas.

- Led company in efforts to bid and win roofing and environmental contracts with the Ohio School Facilities Commission (OSFC).
- Managed the turnkey design, permitting, and building of a fuel farm facility (\$750K) for The Ohio State University (OSU) Airport (2000). Project entailed the layout, design, and installation of six aboveground storage tanks (ASTs), 12,000 gallons each, and the removal and closure of four existing USTs. Fuels included Jet-A and Av-Gas. Project roles included site plans/layouts, preparation of subcontractor specifications, construction oversight, concrete foundation and subsurface design, permitting (PTI and PTO), start-up troubleshooting, and commissioning activities.
- Was lead researcher on two teams of nationally recognized residential and commercial heat pump development programs: i) Battelle (Double-Effect Absorption Heat Pump) and ii) Columbia Gas System (Dual Cycle Heat Pump). Both projects met goals for performance (efficiency and capacity). Research resulted in receipt of six U.S. Patents.
- Co-designed parking lot and storm-water collection system for major trucking firm on 40-acre site in Cleveland. Project began as a site assessment and concluded with facility design.
- Process engineer for 200 million gallons-per-day wastewater treatment plant for a Weyerhaeuser paper mill.
- Evaluated incineration technology and cost/benefit for an incinerator that burned organophosphate and chlorinated thio-ether wastes. Developed source term for present and future emissions under varying load rates.
- Prepared a carbon treatment designs for removing organophosphates and chlorinated thio-ether, and nerve agents from wastewater.
- Designed/permitted first of three mobile wastewater treatment facilities in the State of Ohio.
- Developed a process to eliminate HF/tar hazardous waste generation from an electronics manufacturing process.
- Developed processes to reduce contamination of water from oil spills, including biodegradation and controlled combustion.
- Conducted bench-scale analysis of reverse osmosis, ultrafiltration, wet air oxidation, and solvent extraction treatment processes.

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Environmental Experience

- Provided 8-hr. Tier 1 & Tier 2 training to State of Ohio BUSTR site coordinators (May 23, 2000).
- Provided approximately 40 hours of Risk Assessment Training (five 8-hr. training sessions) to BUSTR coordinators (May 1999).
- Member of BUSTR's new rules advisory committee (1999).
- Completed over a dozen BUSTR Tier 2 and Tier 3 Risk Assessments (RA) for clients such as CITGO, AEP, Anderson Concrete, and the Port Columbus Airport Authority. Creative solutions saved years of remediation and millions of dollars.
- Completed BUSTR Tier 4 RA for American Electric Power.
- Completed Environmental Assessment for NASA - Lewis Rocket Engine Test Facility.
- Completed dozens of Federal/State air, water, and hazardous waste permits (e.g., PTI, PTO, FESOP and NPDES) for dozens of industrial clients.
- Developed Spill Prevention, Controls and Countermeasures (SPCC) Plan template according to 40 CFR 112. Developed SPCC template, which has been audited and accepted by Ohio EPA. Prepared site-specific SPCC's for clients such as L.J. Minor (Cleveland), Mickley Oil Company, Doersam LLC, Federal Express Corporation (Blue Ash), and Central Ohio Asphalt.
- Prepared hazardous waste evaluation for the NASA-Merritt Island Environmental Impact Assessment of Space Shuttle SRB refurbishing facility in a wildlife area.
- Developed a portion of the database used in preparing the original Resource Conservation and Recovery Act (RCRA).
- Developed BUSTR Residential and Commercial Risk Assessment (RA) Models.

Other Experience

- Responsible for all intellectual property (e.g., patents) and commercialization of residential, commercial, vehicle, and fuel cell technology for Columbia Gas System and their development partners.
- Served on 11 Industry Advisory Bodies [Gas Research Institute (GRI), American Gas Association (AGA), U.S. Department of Energy Funding Initiative - \$2 billion (USDOE-FI), and Gas Utilization Research Forum (GURF)].
- Served as U.S. DOE expert reviewer on cooling, heat pump, desiccant, and power generation proposals.
- Served on U.S. DOE expert review panel for desiccant program area.
- Prepared business acquisition due diligence for Columbia Gas System corporate staff (e.g. micro-turbines).
- Provided technical and business due diligence for three venture capital firms on a dozen emerging markets.

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- Authored budget recommendations for DOE Funding Initiative in Power Generation, Cooling, and NGV areas based on industry consensus meetings.
- Served/Serving on ANSI and ASHRAE Standards Working Groups (Z21.40 and SPC 40).
- Provided keynote presentations on Energy Deregulation for four major utilities and several industry groups.
- Completed nationally recognized market research on U.S. cooling, refrigeration, and controls markets.

Certifications, Registrations, and Honors

Registered Professional Engineer, State of Florida #76583, State of Kentucky #24116, State of Ohio #49063, State of Pennsylvania #PE-053899-E, State of Texas #101855 (also listed windstorm inspector), and State of West Virginia #16311

Certified Industrial Hygienist, 8067 CP, November 2000.

Certified Safety Professional, 23563, November 2012

Asbestos Hazard Evaluation Specialist – State of Ohio #ES34643

Certified Residential Mold Inspector – (IESO) - 2004

ASHRAE Certificate of Appreciation, May 2002, ASHRAE Standard 40.

ASHRAE Fundamentals of HVAC Systems – 35 CEUs (Feb. to April 2008).

AIHA CIH Refresher (Univ. of Michigan) – 40-hr. class - 1998

Certificate of Accomplishment in Risk Assessment from The Ohio State University School of Public Health – 120-hr. class – 1997

Certificate of Achievement – Ohio Department of Transportation 80-hr. class – Managing in the Environmental Process – 1997

Roof Consulting Institute (RCI) Courses:

- Advanced Thermal & Moisture Control (5/14/2008)
- Professional Roof Consulting (5/15-16/2008)
- Roof Technology & Science I (9/15-16/2009)
- Roof Technology & Science II (9/17-18/2009)

Undergraduate Scholarships from the Pulp and Paper Foundation Scholarship Fund for Freshman, Sophomore, and Junior Years.

Certificate of High Scholarship – Department of Chemical Engineering – University of Washington – Jr. Year - 1978.

Undergraduate Scholarship from Department of Chemical Engineering, Senior Year.

Undergraduate B.S. Ch.E. – Cum Laude.

Graduate School - M. S. Ch. E. – 2nd in Class

Raymond Roesch Award, University of Dayton, (awarded annually to top MBA graduate); graduated first in MBA class with 4.0 GPA – 1988.

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Memberships

Member, American Industrial Hygiene Association (AIHA)

Member, American Conference of Governmental Industrial Hygienists (ACGIH)

Member, American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE). Voting Member TC 8.3.

Member, American Institute of Chemical Engineers (AIChE)

Member, Indoor Environmental Standards Organization (IESO)

Member, Roof Consulting Institute (RCI)

Member, Society of Automotive Engineers (SAE)

Member, Sigma Xi

U.S. Patents

U.S. 6,649,062. November 18, 2003. Fluid-Membrane Separation. Petty.

U.S. 6,109,339. August 29, 2000. Heating System. Talbert, Ball, Yates, Petty, and Grimes.

U.S. 5,769,033. June 23, 1998. Hot Water Storage. Petty and Jones.

U.S. 5,636,527. June 10, 1997. Enhanced Fluid-Liquid Contact. Christensen and Petty.

U.S. 5,546,760. August 20, 1996. Generator Package for Absorption Heat Pumps. Cook, Petty, Meacham, Christensen, and McGahey.

U.S. 5,533,362. July 9, 1996. Heat Transfer Apparatus for Heat Pumps. Cook, Petty, Meacham, Christensen, and McGahey.

U.S. 5,339,654. August 23, 1994. Heat Transfer Apparatus for Heat Pumps. Cook, Petty, Meacham, Christensen, and McGahey.

U.S. 5,067,330. November 26, 1991. Heat Transfer Apparatus for Heat Pumps. Cook, Petty, Meacham, Christensen, and McGahey.

U.S. 4,972,679. November 27, 1990. Absorption Refrigeration and Heat Pump System with Defrost. Petty and Cook.

Books

Forensic Engineering: Damage Assessments for Residential and Commercial Structures, January 4, 2013, CRC Press, 804 pp.

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Publications

Stephen E. Petty, 2020, *Visible dust and asbestos: what does it suggest regarding asbestos exposures?* Journal of Scientific Practice and Integrity. 2(1). DOI: 10.35122/001c.14496, August.

Stephen E. Petty, Mark Nicas, Anthony A. Boiarski, 2011. *A quantitative Method for Estimating Dermal Benzene Absorption from Benzene-containing Hydrocarbon Liquids*, Int. J Occup Environ Health, Vol. 17/No. 4, Oct./Dec. 2011, pgs. 287-300.

Stephen E. Petty, PE, CIH, Mark Petty, Tim Kasberg, 2009. *Evaluation of Hail-Strike Damage to Asphalt Shingles Based on Hailstone Size, Roof Pitch, Direction of Incoming Storm, and Facing Roof Elevation*, Interface, The Journal of RCI; May/June, Vol. XXVII, No. 5, pgs. 4-10.

Peter F. Infante, MPH, DRPH, Stephen E. Petty, PE, CIH, D. H. Groth, G. Markowitz, D. Rosner, 2009. *Vinyl Chloride Propellant in Hair Spray and Angiosarcoma of the Liver among Hairdressers and Barbers: Case Reports*, Int. J Occup Environ Health; 15:36-42.

Petty, S.E., Ball, D., Nation, J. and S. Talbert, 1997. *A New, Integrated Compact Combo System for Multi-Family Residences*, Proceedings of the 48th Conference Papers Available from the 48th International Appliance Technical Conference (IATC), May 12 - 14, 1997, Ohio State University – Fawcett Center, Columbus, OH.

Petty, S.E., 1997. *Mack's LNG Truck Ready to Move into Refuse Collection Market*, NGV Tech Update, Gas Research Institute, Spring Edition, pgs. 1 and 3.

Petty, S., 1983. *Combustion of Crude Oil on Water*, Fire Safety Journal, Vol. 5, pgs. 123-134.

Petty, S., B.A. Garrett-Price and G.L. McKown, 1983. *Preliminary Assessment of the Use of Heat Transfer Fluids for Solar Thermal Energy Systems*, EPA-600/S7-83-021, U.S. Environmental Protection Agency, April.

English, C.J., S.E. Petty and D.S. Sclarew, 1983. *Treatment of Biomass Gasification Wastewaters Using a Combined Wet Air Oxidation/Activated Sludge Process*, PNL-4593, Contract DE-AC06-76RLO-1830, U.S. Department of Energy, February.

Petty, S.E., W. Wakamiya, C.J. English, J.A. Strand and D.D. Mahlum, 1982. *Assessment of Synfuel Spill Cleanup Options*, PNL-4244, UC-11,90i,91, Contract DE-AC06-76RLO 1830, U.S. Department of Energy, April.

Wakamiya, W., Petty, S.E., Boiarski, A., Putnam, A., 1982. *Combustion of Oil on Water: An Experimental Program*, U. S. Department of Energy, DOE/NBM/1002, Contract # AC06-76RLO 1830, February.

Petty, S., B.A. Garrett-Price and G.L. McKown, 1982. *Preliminary Assessment of the Use of Heat Transfer Fluids for Solar Thermal Energy Systems*, PNL-4182, IAG No. AD-89-F-1-623-0, U.S. Environmental Protection Agency, January.

Petty, S.E., N.E. Bell and C.J. English, Jr., 1981. *Treatment of Biomass Gasification Wastewaters Using Wet Air Oxidation, Solvent Extraction and Reverse Osmosis*, PNL

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SA-10093, Proceedings of the 13th Biomass Thermochemical Conversion Contractor's Meeting, Arlington, VA, October 27-29, pgs. 718-747.

Petty, S.E., N.E. Bell and C.J. English, Jr., 1981. *Treatment of Biomass Gasification Wastewaters Using Wet Air Oxidation, Solvent Extraction and Reverse Osmosis*, Contract DE-AC06-76RLO-1830, U.S. Department of Energy, October.

Petty, S.E., S.D. Eliason and M.M. Laegreid, 1981. *Treatment of Biomass Gasification Wastewaters Using Reverse Osmosis*, PNL-4018, Contract DE-AC06-76RLO-1830, U.S. Department of Energy, September.

Mercer, B.W., W. Wakamiya, S.E. Petty, J.A. Strand and D.D. Mahlum, 1981. *Assessment of Synfuel Spill Cleanup Options*, PNL-SA-9806 – Proceedings of DOE Workshop on Processing, Needs, and Methodology for Wastewater from the Conversion of Coal, Oil Shale and Biomass to Synfuels, Richland, WA.

Eakin, D.E., J.M. Donovan, G.R. Cysewski, S.E. Petty and J.V. Maxham, 1981. *Preliminary Evaluation of Alternative Ethanol/Water Separation Processes*, PNL-3823, UC-98d, Contract DE-AC06-76RLO-1830, U.S. Department of Energy, May.

Zima, G.E., G.H. Lyon, P.G. Doctor, G.R. Hoenes, S.E. Petty and S.A. Weakley, 1981. *Some Aspects of Cost/Benefit Analysis for In-Service Inspection of PWR Steam Generators*, NUREG/CR-1490, PNL-3388, U.S. Nuclear Regulatory Commission, May.

Petty, S.E., 1981. *Potential Synthetic Fuel Spill Sources and Volumes to the Year 2000*, Contract DE-AC06-76RLO 1830, U.S. Department of Energy, March.

Petty, S.E. and W. Wakamiya, 1981. *Projections on Synfuels Production to the Year 2000*, Contract DE-AC06-76RLO 1830, U.S. Department of Energy, January

Petty, S.E., and J.V. Maxham, 1981. *Ethanol-Water Separation Using a Corn as a Dehydration Agent*, Contract DE-AC06-76RLO 1830, U.S. Department of Energy, January.

J.V. Maxham and S.E. Petty, 1980. *Dehydration of Alcohol/Water Solutions with Solid Dehydration Agents to Produce Alcohol for Gasohol*, Contract DE-AC06-76RLO 1830, U.S. Department of Energy, September.

Petty, S.E., and J.V. Maxham, 1980. *Ethanol-Water Separation Using a Reverse Osmosis Process*, PNL-3579, Contract DE-AC06-76RLO 1830, U.S. Department of Energy, September.

English, C.J., S. E. Petty and G.W. Dawson. 1980. *Identification of Hazardous Waste Disposal Sites and Management Practices in Region 10*. Contract WA-79-A375, U.S. Environmental Protection Agency, February.

Dawson, G.W., C.J. English and S.E. Petty, 1980. *Physical Chemical Properties of Hazardous Waste Constituents*, U. S. Environmental Protection Agency, Southeast Environmental Research Laboratory, Athens, Ga. March 5.

Wakamiya, W., J.V. Maxham and S.E. Petty, 1979. *Biomass Gasification Wastewater Treatment – Interim Report*, PNL-SA-8165, Contract EY-76-C-06-1830, U.S. Department of Energy, September.

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SUMMARY OF PRESENTATIONS

By
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DATE	LOCATION	AUDIENCE	TOPIC	DURATION (Hrs)
April 1, 1999	Bureau of Underground Storage Tank Regulators (BUSTR) Reynoldsburg, OH	BUSTR Chief and State Coordinators, Training Session	BUSTR RISK ASSESSMENT TRAINING Introductory Session	8 hours
April 22, 1999	Bureau of Underground Storage Tank Regulators (BUSTR) Reynoldsburg, OH	BUSTR Chief and State Coordinators, Training Session	BUSTR RISK ASSESSMENT TRAINING Second Session	8 hours
May 6, 1999	Bureau of Underground Storage Tank Regulators (BUSTR) Reynoldsburg, OH	BUSTR Chief and State Coordinators, Training Session	BUSTR RISK ASSESSMENT TRAINING Third Session	8 hours
May 27, 1999	Bureau of Underground Storage Tank Regulators (BUSTR) Reynoldsburg, OH	BUSTR Chief and State Coordinators, Training Session	BUSTR RISK ASSESSMENT TRAINING Fourth Session	8 hours
June 4, 1999	Bureau of Underground Storage Tank Regulators (BUSTR) Reynoldsburg, OH	BUSTR Chief and State Coordinators, Training Session	BUSTR RISK ASSESSMENT TRAINING Fifth Session	8 hours
May 23, 2000	Bureau of Underground Storage Tank Regulators (BUSTR) Reynoldsburg, OH	BUSTR Chief and State Coordinators, Training Session	Factors Influencing Tier 1 and Tier 2 Evaluations Training Session for New Rules	8 hours
January 18, 2001	Engineer's Club, Dayton, OH	ASHRAE, Dayton Chapter, Dinner Speaker	Energy and Cost Benefit Analyses of Heating, Ventilation and Air Conditioning Systems Available for Ohio Schools	2 hours

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DATE	LOCATION	AUDIENCE	TOPIC	DURATION (Hrs)
January 25, 2001	Riffe Tower, Columbus, OH	Ohio School Facilities Commission, Ohio Department of Development, State School A/Es	Energy and Cost Benefit Analyses of Heating, Ventilation and Air Conditioning Systems Available for Ohio Schools	7 hours
March 13, 2001	Ashland Chemical, Columbus, OH	PDMA – Columbus Chapter, Breakfast Speaker	The Product Development Process - Case Studies	1 hour
July 30, 2001	Toledo, OH	City of Toledo, Environmental Director and Staff	Status of BUSTR's New Rule, March 31, 1999	2 hours
September 21, 2001	Lexington, KY	ASHRAE Region VII & Bluegrass Chapter, Invited Luncheon Speaker	Energy and Cost Benefit Analyses of Heating, Ventilation and Air Conditioning Systems Available for Ohio Schools	1.5 hour
November 13, 2001	Wadsworth, OH	ASHRAE Akron Chapter, Dinner Speaker	Energy and Cost Benefit Analyses of Heating, Ventilation and Air Conditioning Systems Available for Ohio Schools	2 hours
February 12, 2002	Cincinnati, OH	ASHRAE Cincinnati Chapter, Lunch Speaker	Evaluation of Heating, Ventilation and Air Conditioning Systems (HVAC) Systems Available for Ohio Schools	1.5 hours
July 2002	Cleveland, OH	AIHA Luncheon Speaker	IAQ Cost – Benefit Analyses For Heating, Ventilation and Air Conditioning Systems (HVAC) Systems Available for Ohio Schools	1.5 hours
September 24, 2002	Columbus, OH	Ohio Builds 2002	Evaluation of HVAC Systems Contained in the OSFC Design Manual	1.5 hours
February 5, 2003	Toledo, OH	ASHRAE Toledo Chapter, Dinner Speaker	Energy and Cost Benefit Analyses of Heating, Ventilation and Air Conditioning Systems Available for Ohio Schools	2 hours
May 9, 2004	Atlanta, GA	American Industrial Hygiene Conference and Expo (AIHce), Professional Development Course #418	Mold Contamination: A Hands-On Workshop Addressing Inspection, Remediation Specifications, Project Oversight and Post-Remediation Assessment	8 hours
September 14, 2004	Gahanna, OH	Gahanna Board of Realtors Luncheon Speaker	Mold – After the Contract	1 hour

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DATE	LOCATION	AUDIENCE	TOPIC	DURATION (Hrs)
November 4, 2004	Cincinnati, OH	Cincinnati Bar Association Luncheon Speaker	Mold – Facts/Fiction/Who Knows?	2 hours
November 17, 2004	Columbus, OH	Ohio Public Facility Maintenance Association (OPFMA) Annual Meeting	Impact of Temperature on Occupants: Theory vs. Reality	1.5 hours
October 17, 2005	Phoenix, AZ	LexisNexis Benzene Litigation Conference	How Low Can You Go? Measuring Exposure to Benzene	1 hour
April 21, 2006	Cleveland, OH	National Business Institute Proving Damages Caused by Mold Infestation in Ohio	Make a Mold Claim and Litigate the Case	2 hours
November 9, 2006	Columbus, OH	Bricker & Eckler Building Industry	Avoiding and Handling Mold Claims	1 hour
June 3, 2008	New Orleans, LA	Harris-Martin Benzene Conference	Historic Levels of Benzene in Products	1 hour
August 14, 2009	Columbus, OH	State Auto Insurance Company	Assessment of Hail and Wind Damage	3 hours
December 4, 2009	Akron, OH	Nationwide Insurance Company	Presentation and Seminar on Log Cabin Construction, Maintenance & Reparability	2 hours
March 17, 2010	Westerville, OH	Nationwide Insurance Company	Seminar on Impact of Wind & Hail Damage to Building Materials	1 hour
May 9, 2012	Dublin, OH	Grange Insurance Company	Lightning Damage Assessments	3 hours
June 18, 2013	Delaware, OH	Nationwide Insurance Company	Forensic Analysis of Fire Damage to Foundation Walls	3 hours

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SUMMARY OF CLASSES TAUGHT AT FRANKLIN UNIVERSITY**By****Stephen Petty**

Class Title	Description	Term	Dates	# Students	Comments
SCIE131 Q1WW	Environmental Science 131	Winter 2003	1/3/03 to 4/24/03	17	Online class
SCIE131 E1FF	Environmental Science 131	Summer 2003	5/21/03 to 6/25/03	13	In-Class
SCIE114 F2FF	Earth Science 114	Fall 2003	9/29/03 to 11/3/03	17	In-Class
SCIE131 H1FF	Environmental Science 131	Fall 2003	11/12/03 to 12/17/03	15	In-Class
SCIE131 Q1WW	Environmental Science 131	Summer 2004	05/17/04 to 08/07/04	14	Online class
SCIE131 H1FF	Environmental Science 131	Fall 2004	11/10/04 to 12/15/04	19	In-Class
SCIE 131 H1FF	Environmental Science 131	Fall 2005	11/9/05 to 12/14/05	19	In-Class
SCIE 131 H1FF	Environmental Science 131	Spring 2006	3/27/06 to 5/1/06	?	In-Class

SCIE 114 – 4 Semester Credit Hours

SCIE 131 – 4 Semester Credit Hours